Poem-Embedded Consciousness
The Lost Optimism of Voltaire

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Abstract   In studying poem-embedded consciousness, the present approach has been based on Perspective Text Analysis (PTA). Methodologically, the version Vertex is used and the focus is on suffering in the Age of Reason in which both the French Système and the Philosophes had trouble with fitting the horrors of catastrophic events into the optimistic worldview of that time. In particular, Voltaireøs position concerning the doctrine of optimism and the solutions, proposed by the Church and the Système, to the problems of evil in the world resulted in an outrage of the Philosophes. Moreover, Voltaireøs writings had been influenced strongly by a number of deadly events. The originally gloomy style of his poem on the Lisbon catastrophe has been viewed as an expression of the impatience he had with his own optimism. Although getting a handle on Voltaireøs poem by coupling its language structure with system dynamics requires the reversible synthesising AaO mechanism. This mechanism provides the condition for treating language as self-referential and self-organising system which becomes structured through its own internal driving forces. Evidently, this system is responsible for the manifestation of textual pattern formation and the production of sequences without intervening dissociations. The involved clocking function shows that circular (A-O) couplings are producing the characteristic properties of textual agents as well as of textual objectives. Through individual variations in the growth of patterns and the nesting, it is demonstrated that topology changing transitions and structural stability generate invariants in simultaneously developing energy landscapes. The root in the Agent landscape is connected with the state attractor that is carrying the terminus *Strenuous Effort.* The root in the Objective landscape is emerging in the final state attractor that is carrying the terminus *Infernal Wandering.*

The Nature of Poem-embedded Consciousness

Until recently the phenomena of complex systems such as natural language production and especially poem writing, have remained outside the scope of scientific inquiry. A scientific study of natural in the true sense of the notion ÷scienceø must begin with the observation of discontinuities (Winfree, 1980, p. 28), and the study of the Nature of produced text is no exception. This is so, because so far it has been impossible to get the phenomenon of õintentionö under experimental control. Now, a method exists, by which a writer or speakerøs style (Buffon: ÷Le style est løhomme mêmeø) is measurable and a personal angle on a topic can be represented geometrically as language space formations.

The study of text as an expression of Nature, in its most fundamental sense, must begin with the embodiment of consciousness through graphemes and operations that are stringing graphemes together. Since strings of graphemes are generating sequences, they are specifiable through their phase-dependent movement patterns. Their structural stability and topology changing transitions can be made apparent through Perspective Text Analysis (PTA). However, to recover the involved õattitudesö in the mathematical sense of the notion (Hestenes, 1986/1993, p. 72), it is necessary to handle the changes in the produced sequences õstep-wise without intervening dissociations and in perfect orderö (Baeyer, 1999, pp. 12-14).

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What is fundamentally new with PTA has been demonstrated with the autonomous α- and β-clocks of the Agent-action-Objective (AaO) mechanism. Their synchronised clocking mode determines the rhythm and acceleration in intention and orientation as well. In an absolute sense, the clocking in the developing flows is directing the rotation of floating strings. Rhythmically operating work cycles are driving the flows in the direction toward the sharpest increase in acceleration. Since it has been made evident that the rhythmic and clock-like working mode of natural language production generates novelties, it will become evident from the emerging state attractions that the unique relationship between existence and essence or being and meaning turns out to become explainable. Further, it is suggested that a change in the flow of strings is producing the õhelicalö developing AaO configurations of α- and β-strands. Both reflect topological changing transitions. In studying consciousness as performance, transformations on the textual flow dynamics are the precondition for the formation of Potential Energy Surfaces (PES). In an attempt to establish the structural stability of PES as well as a high-dimensional language space, the functional geometry, as rediscovered by the õspace scienceö (Hestenes, 1994, p. 65) and õquantum computingö (Duan, Cirac, & Zoller, 2001; Lloyd, 2001) will be used as a background to the construction of an efficient geometric basis for the observation of string movements and the description of their pattern dynamics.

Furthermore, it has been noted that the movement through the angle at a particular edge might or may not be equal to the joining radian. Rotations depend on transformational moves through certain angles. Therefore, the values of a developing (αβ) helix constitute an apparent demonstration of rotational dynamics. When a super-string becomes allied with a large radian, this gives expression to a higher degree of displacement than a super-string, associated with a smaller radian. The larger the distance to be covered the greater is the rate of fading. The capacity to trace these rotational patterns in an open õspherical spaceö (Winfree, 1980, p. 8) comes from the observation that the α-domain is contributing to the formation of covalent bonds. The function of bonding is to account for the fading in the A-component.

This requirement had important consequences for the development of PTA/Vertex. Through this version, it could be made evident that the rotation of strings is a valid operation for the observation of the evolutionary dynamics that is characterising the way in which strings move and spaces curve. For the description of spaces, rotating strings, super-strings, and super-symmetries (Greene, 1999; Wheeler, 1998), magnitudes have been determined and used for the generation of energy landscapes (Wales, 2003). Finally, when a string is transiting from a virtual to a material state, it transforms into a õsuper-fluid solidö (Hurtley & Szuromi, 2004). This means that dissipation-less strings become evident. Since its kinetic energy is decreasing the symmetry of the string, this phenomenon can be controlled by spinors. In Hestenesøterms, õa spinor consists of a scalar and a vectorö (Hestenes, 1986/1993, p. 51). This circumstance allows for the establishment of dimensional asymmetries. As a result, the control of the flow and broken symmetries is performed by spinors. The symmetry and anti-symmetry of the dimensions of intention and orientation can thereby be determined and corresponding global singularities can be mirrored through their componental disparity.

Against this background, it can be stated that the variability in language behaviour and text building can hardly be approached on the basis of the normative theories for selection and testing. Since they are working with procedures that are circumventing the õincompleteness problemö, addressed by Raff (1996, p. 107), they are insensitive to the methodological deficit that is related to a failure to get this problem under control. Hence, a scientific study of natural language systems is, as long as the normative approach is the only way, doomed to fail.

For example, measures of cognition with existing test items, administered in connection with observations on physiologically oriented polygraphs, can only give a false impression of precision (Fiedler, 2003; Zimmer, 2004). As long as natural language

expressions are studied in the restricted sense of artificially designed test items it is unlikely that methods develop that can account for the õlaws of intentionö (Kelso, 1995). Moreover, it is doubtful that the dynamic patterns of language behaviour can be related with exactness to proper õbiological time scalesö (Foster & Kreitzman, 2004). Complex systems will remain outside the scope of scientific inquiry as long as measures on mind or brain appear to be carried out primarily with tests that are based on classifications of indices as self-evident foundation.

A short overview over the typical mind/brain studies will be provided within the following three predictive frameworks. All are using indicators such as verbal cell descriptions and the assignment of numbers to the classification of questionnaire-based variables.

Hypothesis 1: Neuronal brain activities

Thus far, the first hypothesis concerns mind/brain structures and functions (e.g. Edelman & Changeux, 2001; Davidson, 2002). The major approach in these studies is carried out in the fields of neurology and biology. This line of research has been trying to define consciousness either in terms of attention and awareness or in terms of a certain appreciation of the notion ÷selfø on the cell level, which LeDoux, (2002) has named ÷synaptic selfø In his work it has a memory function and is seen as the synaptic basis for the mechanism of self-awareness. Several years later Baumann (2010) in õMatter to Mind to Consciousnessö suggests that most nerve cells in the outermost layers of the brain end blindly, without any continuing nerve connections. In Baumannøs speculations appear the neurons to guide awareness and consciousness.

Various other researchers are referring to an illumination hypothesis. For example, Pribram (1971) in õLanguages of the Brainö suggests a holonomic model of the mind and is envisioning low potential micro-waves. Later on, Pribram (2004) regards the basic transactions between brain and mind to occur in the fine fibered branches of the neurons. To form an entity, invariants are in the model of Pribram developing through the utilisation of convergent sensory input and motor output. On the other hand, Nunn (2010) speaks of a õbeam of a searchlightö. As a consequence, the state of being conscious is understood as a particular state of being enlightened (J. G Snodgrass & R. L. Thompson, 1997). Other neurologically oriented researchers have been more modest and have advocated a state of õalertnessö (Hebb, 1980, p. 20), however, without a need to lit-up parts of the brain due to brain activities. With alertness, Hebb implies a personøs ability to interact with his environment. A conscious state, in this sense, would be equivalent with awareness.

However, the brain-state approach has, according to Miklos (2001), a serious limitation, namely the lack of a morphological basis that in evolutionary terms can provide a sound foundation for an account of the processes at the cell level. In addition, it is difficult to connect the discovered mechanisms with the gathered sets of neurological data and to circumvent or explain away the problems posed by intentional interactions, non-linearity and emergent properties.

Hypothesis 2: Mind-brain interactions

The other influential mind/brain hypothesis, relating to self-awareness, has been put forward in the form of a mind-brain interaction model (Sperry, 1968). The core of this model consists of two kinds of functions. The first relates to the left hemisphere which appears to work with metrically regular units. These are continuous and material and consequently approachable with the senses. Furthermore, the left is suggested to work with associations and calculations. The effect is sequential and cumulative, which forms the basis for formal and thus propositional knowledge. The other relates to the right, which works with stochastically

regular units. These are discontinuous and immaterial. Since they are proprioceptive, the right is reflecting abstractions and extractions, which suggests that the right has direct access to information and appears to work with formless as well as timeless invariants (B. Bierschenk, 1984). The proposed model, however, fails to give a satisfactory account for the necessity of õschematising processesö, which already in the 1920øs were advocated by Head (1920, p. 831). Accordingly, spatiotemporal pattern representation should be accepted as predominate (Melzack & Wall, 1962).

Sperryøs model is said to include those aspects of behaviour that are conceived of as cognitive properties. Therefore, he comes to the conclusion that õmental statesö, which are collectively addressed with the notion õmindö, are emergent properties of the cooperative interaction of the two hemispheres. According to Sperry, these properties have to be regarded as produced by principles that control the interactions between õconsciousnessö (at the top of a hierarchy of events) and processes concerning the synaptic substrates in the brain. The latter are seen to substantiate conscious awareness. On the other hand, the conscious/awareness mix is faced with a large explanatory gap between the processes of the brain which are believed to produce the processes of the mind.

Eccles (1980, p. 49), in contrast to Sperry, is arguing that it is impossible to derive the mind from the brain and postulates the existence of a mental world (World II) as well as a material world (World I) and that both interact. The former consists of states of consciousness and subjective knowledge. The latter comprises the awareness of physical objects and states as well as matter and energy. Moreover, in contrast to Edelmanøs neuronal circuits, Eccles asserts that a non-material mind or self is influencing the material brain. Unless the mind is õpure nothingnessö (Eccles, 1994, p. 38) the micro-structure of the neo-cortex must be composed of õdendronsö.

Hypothesis 3: Mental interactions

In the humanistic tradition of cognitive psychology, Jaynes (1976/1982) has put forward a third hypothesis, that is, consciousness must be conceived of as a deontological phenomenon. Therefore, the hypothesis mirrors the fact that Jaynes is proposing that consciousness reflects the existence of moral obligations and judgement. Accordingly, he suggests that consciousness is a subjective state and that only exhaustive historical accounts can provide the basis for its substantiation, e.g. in moral prescriptions and ethics. In conclusion, the emergence of consciousness is unique in each subject, but may have some common properties, which are observable in public.

Moreover, language-carried self-conscious processes appear to operate when an õI-meö- or õI-youö-relation becomes comprehensible. In Jaynesø terms an õanalogous Iö is the projective reference of this particular relationship. Here, the expressed mentality is referring to the projection of ÷Iø onto ÷oneselfø and alternatively onto ÷youø. In conclusion, proposed is an everyday perception mediated through metaphors (B. Bierschenk, 1991; B. Bierschenk & I. Bierschenk, 2002). Thus, grounded in metaphorical language expressions, learned by exposure to õnarrative practiceö (Brodsky, 1987), these relations mark developmental progression towards consciousness by means of some kind of synthesising operations (I. Bierschenk, 1989, 1999; B. Bierschenk & I. Bierschenk, 2003).

Culture, Civilization and Ethics

The single individualøs intuitive sense of ethics must be the founding principle on which any civilized existence can develop. The old Germanic nouns (÷Zitø, ÷Zeitø) are precisely those utterances that are addressing the import of time in the processing of knowledge and skills. Zeitgeist relates to the phenomenon of passing information from one lifetime to the next. Registration and identification of significant verbal or nonverbal events is

a function of consuming information. The flexible or dynamic timing of information needs and use is captured in the old Germanic word (=gheisø). Hence, Zeitgeist is the formal expression of the time-dependent information status of a civilization. Moreover, becoming civilian is the formal expression of consensus and consequently of commonness.

However, if any behavioural effect shall be observable, this would be dependent on the pick-up of its sense-making quality. Evolutionary conceived, this means that õcivilization stressö seems to start with the multi-step operations of involution and convolution which transform into mutually dependent states of attractions. When this process is changing a highly civilized culture into disorder, corresponding attractors are signalling a civilization on its way back into barbarism. Barbarism seems to be rooted in the violation of the dominating public values.

 Comprehending states of uncivilized behaviour, means an awareness of a culture made up of far too many barbarians. Since violations can produce extremely discrepant trends and strange developments, civilization stress is imposing definite constraints and makes individual life highly vulnerable to developmental regression. This relationship requires insight into oneøs sensitivity to life. For this reason, the present approach is focusing on the relationship between being and the meaning and a strategy, whose promise is to provide the basis for an empirical analysis of the phenomenon of ethics.

The metaphorical link between the personal existence and a shared environmental context consists of language-dependent interactions. As an active and directive device, metaphorical expressions relate explicitly to limitations which connect the individual intimately with peopleøs general capacity to adopt the prevailing õZeitgeistö. Related to the apparent forces of life, it is not only intimately involved but is also producing systems that play an important role in the making of a citizen. In addition, the modus (or timing) of the individualøs responsiveness is likewise of import. This very broad hypothesis implies some utopian premises which are relevant for ethical considerations.

In principle, the invariant limits to human life are unknowable but culture makes up its context. By and large and with the greatest possible severity, Catholics and Protestants did pursue any deviation from the prevailing cultural norms. On the other hand, the degree of civilization (=societal order) would give a hint on the individualøs operating intellectual capacity. Especially when the individual is engulfed by enlightened humanities, metaphorical transformations of the established norms may imply the processing of information that is dependent on global timing and the development of concepts that are basic for the identification of what is essential to oneøs own survival.

Especially in the moments of catastrophic events, a general crisis or the development of uncivilized (=barbarian) behaviour are structural relations between configurations of concepts beneficial to the individual and allow him to develop in a direction that generates definite advantages. Advancing individual citizens into a position where private concepts have the property of guidance where public moral (sanctioned ethics and norms) no longer is a sufficient condition. Even more important is the fact that mature citizenship includes agreement to certain measures of attainable and sustainable life quality. In this sense, the status of citizenship is a formal expression of the reached level of civilisation.

Consciousness in Historical Time

Historical text can offer the needed physical and cultural space-time context, however, only under the condition that the text producer is able to provide a proper story. This is especially underlined in a series of studies which is concentrating on the study of text from õwithinö. The study of consciousness at a time where history was an art, not a science were started with a series of studies of texts related to Tacitus (B. Bierschenk, 2012 a). Another series was directed towards the Renaissance culture and politics, where Machiavelli is an

extraordinary witness (B. Bierschenk, 2012 b). Handling the subtle distinctions of Machiavelli as an observer compared to Tacitus as observer requires an ability to connect to the internal dynamics and to account for Natureøs string stitching, i.e., the way in which their languages employ differently connected fine fibered threads of strings which make up their intrinsic systems of coordinates.

In contrast to other forms of utilising information on citizenship, the present operations will build on the premise that Voltaire in his function of citizen has communicated resentments, directed towards the norms established through the Church and the French Système. Hence, õlanguage as carrier of consciousnessö (I. Bierschenk, 1989) is no longer dependent on the sole faculty (or central agency) for generating information of import for activating the attention function. Since attention implies a focus on Voltaireøs own earlier optimism, his conclusion concerning õTheology, the Church, the Système and the Earthquake of Lisbonö will be reflected through the last two lines on the Lisbon poem:

Que faut-il, ô mortels? Mortels, il faut souffrir,
Se soumettre en silence, adorer, et mourir;

In relation to the given civilization, the identification and registration of Voltaireøs private concepts is a function which is utilising specific forms of metaphorical expressions (i.e., information). Obviously, Voltaireøs text (W. Durant & A. Durant, 1965, p. 382; Voltaire, 1755/1901) is not only very short but also written in the form of a rhyme. It will be taken as a most important expression of his original point of view. Independent of its form and length, the deep-seated idea here is that text in any form is suitable for carrying essence through language expressions. The length of a text is of no import for the outcome (I. Bierschenk, & B. Bierschenk, 1995, 2011). Thus, if only one single sentence would have been formulated or chosen to give expression to oneøs synthesis, it would be adequate for processing with the method: PTA/Vertex (e.g., I. Bierschenk, & B. Bierschenk, 2013).

It is further assumed that Voltaire as observer and text producer gives expression to his mode of grasping conceptually his cultural context. What he has perceived is immediately expressed through the utterance in which he is concentrating on the core of his perceptual context. This is a unique condition, especially when viewed against his wondering why an omniscient God were unable to create a world without such senseless suffering (W. Durant & A. Durant, 1965, p. 380).

Since self-consciousness must emanate from the single individual, singularity constitutes the frame of reference and the embodiment of structure is emerging through the individualøs style of writing (B. Bierschenk, 2011). Against the background of historical events, like *the Earthquake* and *the Seven Year War*, Voltaireøs self-consciousness can be penetrated without direct access to the binding link between politics, culture and civilization. His relationship to potentially worrying conditions appears to be the result of intrinsic existential stress. This constitutional circumstance is reflected in his experience of continuous disagreements and conflicting arguments concerning various religious orientations and politics. Intellectually as well as physically he appears to turn up not only with a restless life but also with unsatisfied self-consciousness, cumulating in the production of scepticism and embarrassments. In this sense, the self-conscious Voltaire is reflecting not only different but also annoying views on art, science and philosophy and thus, is a most significant figure of his time. He seems to be aware of the fact that mind, as a significant variable of human life, is organising corresponding processes of synthesis. In short, he appears to be aware of the fact that he represents the Zeitgeist (=synthesis of Enlightenment).

Another significant variable in his reasoning is the number of cultural and societal constraints that impose invariant limitations on the individual citizen. To him resistance to

imposed turmoil by the Système is very important since it directs, concerning the general defence mechanisms, the individual at the macro-level. If various states of disorder could become attentive and their over-all import made transparent and accessible, the quality of human life would be greatly improved. With respect to nature and the French version of civilization, this is a more important condition than any other specific anti-societal re-action. In this respect, Voltaire is looking at life and is seeing õeverywhere a thousand ways of individual struggling for existenceö (W. Durant & A. Durant, 1965, p. 380).

Finally, Voltaireøs style of observing and writing is original and outstanding. The poetic form he is giving his observations and reflections, is undoubtedly unique in that he could not hide (or adjust) his style of conduct in order to produce a camouflage with reference to the censorship of his time. Over centuries and obvious to everyone is his inventiveness in revelation. However, as a matter of fact, he wanted to continue the struggle between the editors, the government and the church by other means than to end up in the Bastille or to be compelled to hide or lie (W. Durant & A. Durant, 1965, p. 378).

Potential Energy Surfaces

The textual flow dynamics of the poem is represented in Figure 1. Its Z-Axis shows the flow dynamics which is establishing the sequencing spaces and the contour graphs of both Agent and Objective. In binding the flow dynamics to the textual agents that are carried by the -variables of the A-component, and the textual objectives, carried by the -Variables, alternations in the flows make the functional changes of points of observation as well as the points of view (reproduced in Table 2) twofold dependent. This describes a self-propagating synthesis, which is depending on the capability of a local style to override a global style.

Sequencing in the Agent

The flow dynamics in the sequencing space of the Agent component represents relations between mutually dependent involutes ( ). The time relation in the form of intervals is binding the flow dynamics to the produced variables. This means that the involutions are producing variables which carry empirical value of significance for the formation of hyperbolic spaces. Table 1 is illustrating the displacements and channelling operations, resulting from the poem.

Table 1
Developments in the   -Strand

Variable	Interval	Radian
1	1	3.5482 (material)
2	1	3.5482 (duplicate)
3	2	4.3960 (material)
4	2	3.4030 (copy)
5	3	3.8622 (material)
6	4	4.1348 (copy)
7	5	2.3149 (copy of copy)

The material variable in the position of (α_1) is governing the displacement process. The duplication activity ($\rightarrow$) is generating the local reproduction of (α_1) and is transferring its magnitude into the next following position as (α_2). By inspecting their values, it becomes clear that the duplication appears as levelling phenomenon in the first interval. When the behaviour of (α_4) of the second interval is developing against the material background of (α_3), a particular kind of sloping appears through the involved substitution phenomenon. Hence, in the development of an inclined gradient, copying is producing a slight shadow.
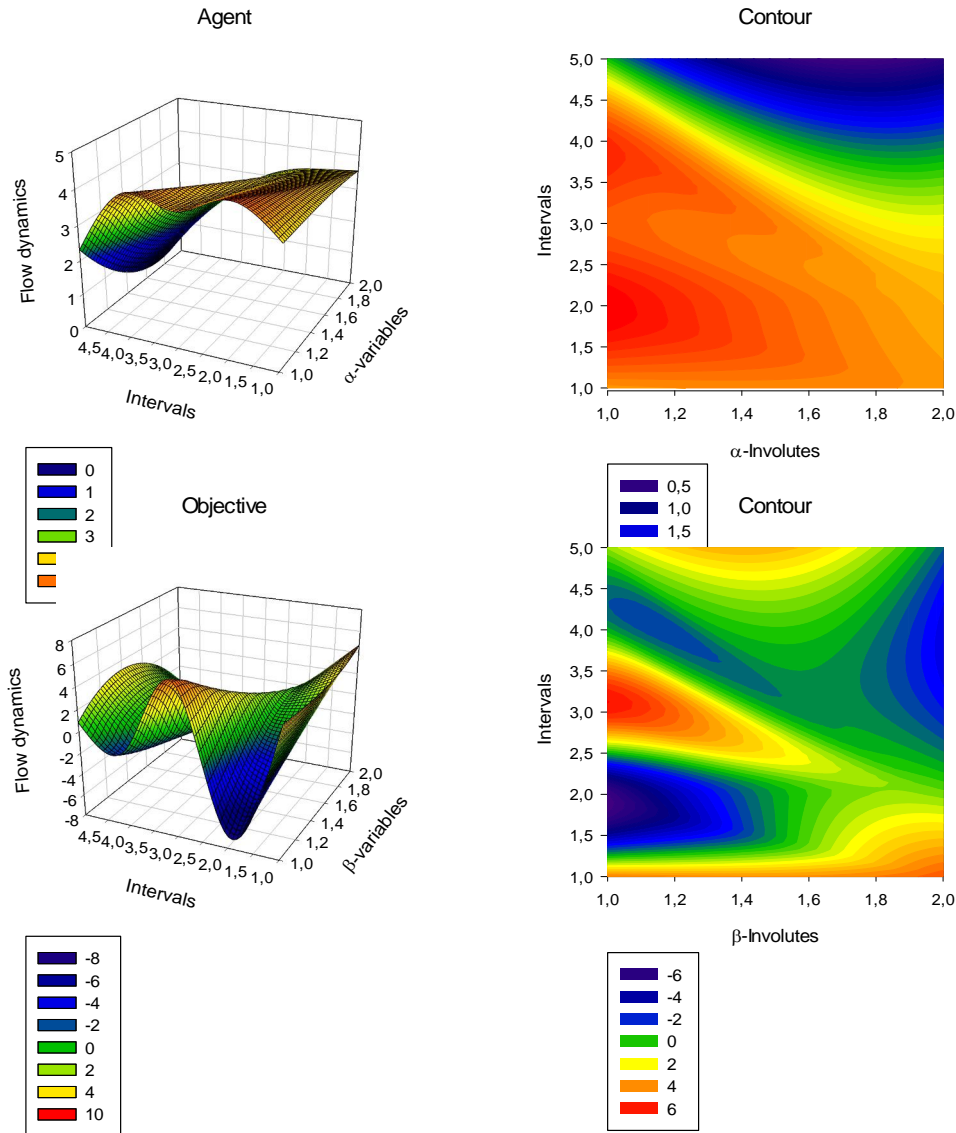
Figure 1   *Sequencing space and contour graph of Agent and Objective*

The displacement of material variable (α_5) is, however, inhibiting this slanting of the forming wave. The copying is controlling this inhibition at the border of the intervals three and four. The critical change is towards a slightly rising path. The trajectory of (α_6) is dipping through its re-iterated copying towards the basin in interval five. The shading of (α_7) in the final interval is producing a particular depth relation. Thus, both duplication through projection and copying are contributing to the global shape of the wave.

Sequencing in the Objective

The channelling of the first two viewpoint variables (β_1, β_2), in Table 2 is driving the process towards the development of a sharp edge. The steep slope in the second interval is the result of a variable (β_3), which is the product of an immaterially oriented and highly implicit phase in the writing. The slanting curve is rolling helically and is producing the first local minimum, which is also the global minimum. It is a pronounced expression of implicitness.

Table 2

Developments in the   -Strand

Variable	Interval	Radian
$_1$	1	3.9878 (material)
$_2$	1	4.7100 (material)
$_3$	2	-6.8400(displaced)
$_4$	2	0.5753 (displaced)
$_5$	3	5.7276 (material)
$_6$	4	-0.6691(displaced)
$_7$	5	0.8478 (Y)

The other variable (β_4) in the second interval is levelling the wave at the border towards the zero-line. Together with its material part, it is producing the condition for the cusp. At the surface, the shape of the curve is appearing as a buckle and thus as a transition region where the wave is forming another minimum. Therefore, the wave is slowing down and transforming into the finally developing basin.

The composition of variable (β_5) incorporates, during interval three, another implicit relation. Now, the wave winds up with a trajectory that is linking the transition states of interval three. When the process of copying is influencing variable (β_6) in the fourth interval, it is enforcing some shading. Thereby, the wave reflects the complexity of compositional involution. When arrested at the tip, the wave curves at the left-hand side toward the second minimum. Variable (β_7) in interval five is rebounding near the zero line meanwhile a barrier appears in interval four. To a certain degree, it forms a kinetic basin which in the expression relates to indirectness or obliqueness.

Throughout the processing of the expression, produced multi-stable gradients are manifesting themselves. That this operation is producing detailed trajectory information is normal and refers to the text producer's ability to apply multiple shifts in perspective to the same textual element or the entire poem. When the observed minima are envisioned as part of a resulting information synthesis, it means that the related space generation is taking part in the development. Hence, a system is evolving on regularities. Conceiving a lawful reproduction of the involved order parameters implies simultaneously that the result is a strict dependency relation, which is characteristic of the componential entanglement of bonded pairs. The [A-O] disparity is the source for this kind of super-symmetries. Furthermore, relative phase stability in the autonomous development of corresponding energy landscapes is manifesting an overall symmetry.

In summing up: the spaces in Figure 1 are showing not only contrasting but also complementary waves. Whenever the depicted process is advancing from one state to the next, the established distance is a pronounced measure on the degree of õdirectnessö. However, without the implied self-reference, it would be impossible to determine transforming phase transitions. Since the process is covert, the textures must become flowing in order to make the style of writing accessible. Moreover, on the evolutionary path, stable points (=material) as well as non-stable points (=immaterial) are shifting reciprocally. Their paths contain topological specifications and parallel causations, as well as recurrent cooperative interactions between textual agents and textual objectives, i.e., the   -variables of the A-component and the   -variables of the O-component.

Finally, self-reference as a consequence of copying processes, is a natural part that can stretch over several segments of text which may be discontinuous in space and time. Hence, every single component within an [A-O] pair is following its own autonomous rhythm. This observation leads to a second level in the thermodynamic description of the poem whose structure is emerging through the attractors in Figure 2.
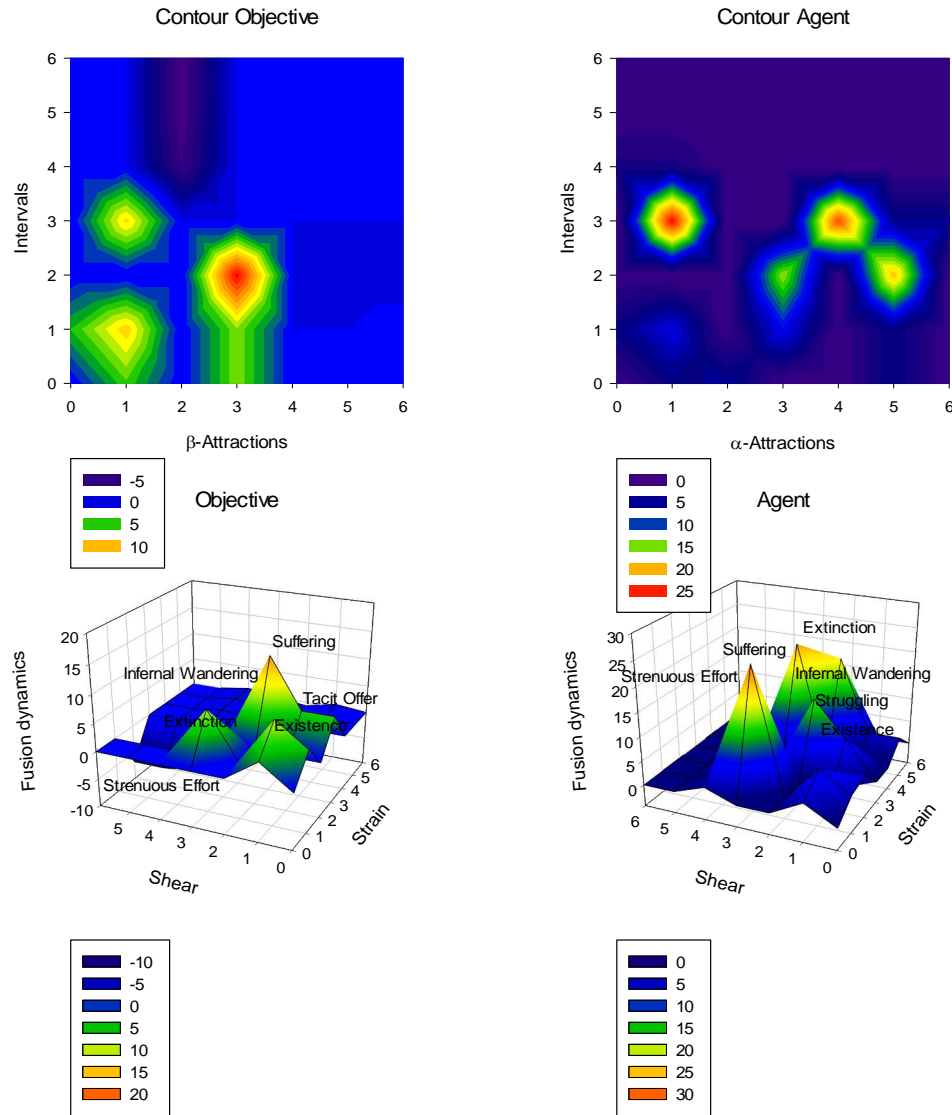
Figure 2   *Contours and FES of the Folded Agent and Objective*

Free Energy Surfaces

Much of the variation in the poem depends on the abstraction of the space-time properties and their relations to intention and orientation. Progressive processing of the magnitudes (=measured in radians) of the separated Agent and Objective spaces demands a measure on subtle changing relationships. As property of foliation and branching, a developing path shows maintenance tendencies which are producing some kind of concurrent inward or outward looking stability. Stability and change are expressible as phase drifting in the work spaces of the components. This means that the structural significance of the poem will be underlined further through the established fusion and folding procedures whose basic condition concerns the degrees of change in the articulation of a super-string. As an intermediate step, generating the structural boundaries, the vicissitudes of individual experience are represented in the naming of the folds.

The changes in the Contours of Figure 2 are structural in nature, which means that the established layering in an attraction is encompassing the identification of those formations

that remain over change. Moreover, it has been shown in previous studies, that the boundary of a layer can be stretched only to a certain degree, since a transformational shift is a matter of preserving structural limits (B. Bierschenk, 2005).

In the landscapes of Figure 2, the order parameter *Strain* is measuring compactness while *Shear* is concerned with the fraction of native contacts present. A minimum in the landscape is a point from which a small displacement of a point or state attractor in any direction is increasing the fusion dynamics. Various degrees of complexity in the attractions are current whenever trajectories appear stable and reproducible. Some fold easily, while others require more energy consumption. Hence, the fusion dynamics refers to invested effort and the Contour graphs are reflecting the energy concentrations.

Understanding how a particular system can relax efficiently to definite structures or substructures (within certain regions) requires a global view on the produced landscapes. Furthermore, when the meaning of the applied Zipper-function (B. Bierschenk, (2012c) shall be communicated, the fusion dynamics has to become symbolic. Therefore, the reproduction of a particular space allows for the operational definition of neighbourhood and distance in the produced landscapes.

In particular, any stream of energy, flowing downhill, means that the concentrations must end in a basin. Unless the minima that separate an actual barrier are identified, knowledge of the distribution of barrier heights that separate the local minima is insufficient for explaining the global dynamics. However, encountering a ledge means a potential change in its direction. The last ledge defines the global minimum. The presence of distinct folding intermediates implies that there are other local minima. Hills imply regional separations, which differ from the occurrences of minima. Near zero or below sea level, minima are indicative of state attractors that develop because of shadow-like overlaps (i.e., soft-moulded attractions).

When a terminus is defined as the local concentration of conserved information, the achieved conservation makes apparent that irreversible processes appear as stabilities, i.e., information invariants, at the kinematic level. Thus, symmetry is a consequence of non-commutative measurements and will be discussed in the context of transformational invariance. Consequently, when a language structure is considered as context, cooperation between intention and orientation is no longer the objective of the physical conditions of making experience. Instead, it is the hyperbolic determination of regional and global states, that is, singularities. Thereby, new constraints are produced, which pass beyond the limit of reality. As a consequence of transcending physical reality, landscapes are evolving, which have the hyperbolic property of intrinsic as well as extrinsic curvature (Wisdom, 2003). Hence, singularities are organising themselves in hyperbolic spaces which are negatively curved. By definition, negatively curved spaces are hyperbolic at any level and require that ordinary geometry is replaced with what has become known as non-commutative geometry (Connes, 1994 p. 7; Greene, 1999, pp. 379-380; Hestenes, 1994, p. 66). Henceforth, naming procedures apply to the dynamics of redistributed magnitudes of energy.

Naming in the Objective space
The flat region at the left-hand side implies fast folding and thus, low barriers. However, starting from the right-hand side and climbing towards the top means that the climbing begins in the foothills with *Tacit Offer*. Every step from there is a step uphill. Tacit in the present context means an implied or inferred understanding of something which in silence relates to events and actions. The source of this kind of offer is the Lisbon disaster.
A more thorough understanding means accepting the previously hold optimistic opinion that everything is good which includes just silence in acceptance of misery. In the Lisbon case,

this circumstance is not referring to what is offered and what is accepted, but what concerns a third party, i.e., a super-power.

As an agent of a superpower, the English clergymen (e.g., William Warburton), proclaimed, at the sight of the stack of victims, in the most beautiful colours that the dead in Lisbon were to the glory of God (W. Durant & A. Durant, 1965, p. 379). Others explained the death of the people of Lisbon as an offer and the price to be paid for the Catholic crimes against humanity. Especially the philosophers of Enlightenment did argue that an omniscient õGodö would not create a world with such senseless *Suffering*.

To continue the climbing in the landscape of the Objective, more energy investment is required in order to overcome higher free energy barriers. Hence, reaching the highest top means following the slowest path. Clearly, slowness involves deep digging into ÷suffering in silenceø Since the methods for generating the ÷Goodø are insensitive to deep moral obligations, the conscience of the Jesuit Priests had nothing to offer to the many people who were at the brink of death.

To a certain extent, the path below sea level indicates that the system first explores folded states before it escapes to a pathway of fast folding, i.e., the region carrying *Extinction*. Concerning the extinction of life, the declaration of the Protestant Priests of London (e.g., John Wesley) has caused misdemeanour. Wesley is best known as the founder of Methodism. On the French side, Rousseau wrote a letter to Voltaire, mentioned in W. Durant and A. Durant, (1965, p. 382), in which he argued that all human evils are the result of human error. Since people had abandoned natural life in preference of living in cities, they deserved punishment. However, when Voltaire is looking at life, he is seeing ÷a thousand forms of struggling for existenceø(W. Durant & A. Durant, 1965, pp. 380-381).

Radically expressed, it implies a sense of being out of event-control which is directing the focus towards wariness and a situation, which generally means struggling in the context of an unavoidable and painful death. On the other hand, existence implies persistent and covert attempts to fight a miserable death. This way of reasoning is restricted to simple worship and an awareness that every organism is õworshipingö and is eventually doomed to die. The overall meaning of this orientation appears to be founded in the religious demeanour: Adore un Dieu, sois juste, et chéris ta patrie (Worship one God, be righteous, and love your own country).

This *Strenuous Effort* was attacked by the Philosophes who concentrated on battling the hatred priesthood. Together with social pressure, the Church restricted the individualøs freedom to worship and following his choice of a faith, however different from that of the Church. Legal pressure forced the people either to attend particular religious services or did outlaw and banning groups with certain religious orientation.

On the other hand, enlightened citizens did challenge superstition and repeatedly attacked resentments as well as the tyranny of censorship due to the Church and the Système. Consequently, challenge and attack lead evidently to a transition that amplified further the theological provocations through the Philosophes. Persistent reiteration concerning their essential point, namely that there is no detectable systemic cause resulting in the Lisbon chaos, had an extinguishing effect on the thoughts about life.

The popular Christian belief of the deity as a superpower of vengeance is questioned as well as the eternal torments of hell. The reason for turning away from the popular opinion of a God of revenge and the explanation of the Church was partly the opinion of the Church on the earthquake in Lisbon, partly the proscription of the Encyclopaedia. A further critical fact was a return to barbarism, namely the barbaric executions of Jean Calas and Chavalier de la Barre, performed by the Système. Hence, the Age of Reason had a violent side which repeatedly cumulated in bloodshed by the Système and bloody mob outbursts. During this age, cruelty and pitiless tortures were induced to inflict physical and mental suffering.

With the notion of a õliving hellö, the majority of people appear to be condemned to eternal hell torments. Voltaire on the other hand argues that the human race would be unhappy if committing atrocities would be as easy as to believe in it. In these barbarian times, torture and execution methods were all used with no laws or rules to protect the individual. Just as for the basin at the left, any step in the fusion process is uphill and is resulting in the global and consequently final state attractor *Infernal Wandering*.

Its overall meaning appears to be founded in a religious demeanour of a kind that was prior to the emergence of Christianity, namely the treatment of prisoners or believers who faced execution such as being ̵Hung ̸, ̵Drawn ̸ and ̵Quartered ̸. Structurally embedded in an awareness of the consequences for one ̸s life, it is like moving on the crater path of a storm surge. Voltaire is empathetically writing on this misery of man, especially when he is upsetting himself due to the hanging of Jean Calas and Chavalier de la Barre. He maintains that, according to ancient belief, there is evil in wandering upon earth. He holds that the individual ̸s perceptiveness is as weak as his existence is unhappy (Voltaire, 1755/1901). Since his friends found the end of the cited poem too pessimistic, Voltaire changed the last line into: ̵Se soumettre, adorer, espérer, et mourir ̸ (W. Durant & A. Durant, 1965, p. 382). As Europe ̸s conscience, Voltaire ̸s opinion, despite his profound reaction, was softened in later years. Nevertheless, he kept his orientation towards optimism, which was reinforced due to the ̵Seven Years ̸ War ̸ which began in 1756 (Mason, 1992, p. 2). In fact, he did attack the Leibnitz-view on optimism. Accepting some optimism seems to have occurred during his later life.

Descriptions in the Agent space

The structural significant aspect of the Agent-landscape is captured in the global state attractor, which carries the terminus *Strenuous Effort*. Thus, a most important topology-changing transition concerns the reappearance of this terminus. The term is pointing towards the text producer ̸s ego-involvement. As a prerequisite the term must refer to a manifested focus on the analogous (̵I ̸). This means that sensitivity to conscience is denoting a certain resoluteness or firmness in the attainment of the goal. It is a sensitive indication of humanness and an articulation of a need for great effort, requiring energy and hard work when the task consists in reforming both Church and Système.

The other terminus is *Extinction,* which is complementary and communicates sensitivity to factors that determine the course of events as an outcome of blind and mechanically working supremacy. This power is conceived to predetermine and regulate ruthlessly everything in life. Consequently, reproachful distain and bitter scorn are directed intentionally to the states of inferno. As necessary point of reference, distant interaction has formed the expression of self-sensitivity in relation to the surrounding civilization.

The demarcated misery in the poem tends towards a path of destruction. This phenomenon is from the Agent ̸s point of view, focusing on the bad and ignores the good in life. Here, naming physical as well as mental harming means describing the attractor with *Infernal Wandering*. This descriptor helps to define one ̸s ability to act and to perform effectively as well as to exercise control over one ̸s human dignity. In relation to moving on the ruins of a civilization and struggling for survival, the abstracted involvedness of an analogous (̵I ̸) is concentrated on the bi-componential and complementary description of emerging biosocial limits. It is a demonstration of the implicit link between destruction and humiliation. This is a state where the battered tries to find some meaning in life. The wanderings stray off the rightful and straight path of moral truth and get lost in a õdarkly stoicö mind (W. Durant & A. Durant, 1965, pp. 382).

Based on Voltaire ̸s materialistic understanding of decaying matter and motion, the attractor *Struggling* is pointing towards some measures of quality of life. Reflected against the

opinion of the Philosophes (e.g. Rousseau), security would have been greater if man had kept to simple living and had not abandoned natural life. In relating the descriptor to the individualøs will to get hold of happiness, it is a measure by which one can choose and decide upon a course of action. When Voltaire believes in the freedom of thought and action, it is an expression of freedom from external control.

Provided this capacity, the individual can exist in a changing world and nevertheless maintain his identity. Only dramatic events can invalidate oneøs concept of identity and consequently oneøs ability to adapt. It must be pointed out here that this descriptor is not carrying the Darwinian meaning, which refers to an achievement of the environment. Instead, the descriptor carries the individualøs intention to achieve and to survive. Nature is in Voltaireøs mind unavoidably progressing towards death and thereby setting the limits for *Existence*.

A reference to nature with all its cruelty and limiting of opportunities is carried by the descriptor at the right-hand side implies. In the foreground stands the circular causality between civil structures and the dynamics of citizens. Individual survival capacity makes the citizen less dependent on occasional changes.

In Voltaireøs world, *Suffering* stands at the beginning and at the end of life. This terminus mediates the burden of existing and struggling. However, saying that it is for the best of people means that it is inhumane. The Lisbon earthquake was conceived as the just punishment of the people, who had abandoned natural life and lived in cities. With this pessimistic outlook, the clergymen of the time meant that it is useless to try to avoid dishonour, illness and death (W. Durant & A. Durant, 1965, pp. 378-379). This reflection is founded on an impenetrable mystery. But Voltaire is calling for a lesser amount of beliefs and philosophies and more of humanism.

On the other hand, Nature always remains neutral concerning earthquakes and all kinds of disaster. Seeing this focus in the poem means seeing an inevitable course towards *Extinction*, which is taking the unavoidable (of death) into account. Since its perception and judgement requires a basis, the descriptor is carrying a certain stress. Triangulating is pointing towards the supernatural as well as to certain structural failures. Those are catastrophic in the sense of system failures which often lead to poor or impossible recovery. Here, the presence of catastrophic events seems to be the focal condition for Voltaireøs theistic validation of existence.

Voltaire (1750) refers to himself as ÷Theistø (W. Durant & A. Durant, 1965, pp. 369-373), which means that he is thinking in transcendental terms. Anchoring human values in Theism, implies that he is expecting that Christianity as ethical power will disappear. His appeal to reason and natural law was to replace the Christian ethic-religious cosmology. The most characteristic property of the relation, which is finally emerging at the surface, is losing its direct similitude. Crammed with the natural catastrophe, higher degrees of abstractness are shifting toward a phase where the boundaries of the final transformation get a new definition.

Discussion

In the most simplistic case, the curvature of smooth molecular ring structures makes shape properties apparent. Evolving rings are manifesting the transition from invested kinetic energy to the transformation of textual context segments which concerns the integration and fusion of textual movement patterns into variables. In comparison to the folds of the Objective landscape, all trajectories of the Agent landscape show the displacement and corresponding changes due to the clustering of the α-variables. The characterisation of their folding applies to the dynamics as well as to the clusters and the folding. This space shows faster folding and the complicated phenomena of folding are all manifestations of the underlying PES.

Relative to some line of reference, the significance of growth in the inclination of a path is increasing with time. Thus, a stepwise transformation is simultaneously generating a path that is climbing a specific peak, i.e., a virtual state, which contains the tilt. A first measure of the difficulties of comprehending an Agent property is the degree to which a dimensional transformation of the depth-relations is taking place. Since folds are expressing evolving substructures, they give rise to evolutionary fitness.

A singularity of an established configuration is thereby characterising the region in the landscape that is manifesting a particular structural change. Singularities are therefore marking configuration differences. To repeat, strong bottlenecks imply firmness in the path. As a result, all the complexities observed at the end of the processed transformations can be circumscribed and communicated with the terminus of the final singularity, which gives an inclusive description with *Strenuous Effort* and complementary to it   with *Infernal Wandering*.

A classical approach to the comprehension of the poem would have shown that it is difficult to define its style and thus its quality. The reason for the shortcomings of the conventional strategies seems to be associated with the effects of implicit configuration and meaning. In contrast, to process a symbolic expression successfully has made it evident that the cooperation between intention and orientation leads towards the ˗metaø physical determination of the processed poem. This means that the functional quality of a poem is approachable. Through the production of invariants information quality is manageable.

However, to establish the workspace of a symbolic expression, any language expression has to fulfil its transcendental (metaphysical) function. This function refers to an object or property of an object that is comparatively beyond that of other objects. Therefore, the intentional contextualisation of words that fuzzes their lexical specifications has to be directed towards õformless invariantsö which exist above and independent of material experience. Such words (or properties) transcend others. What is directing intention to pass beyond the limits of reality is the function of orientation. To reiterate, translation and transformation depends on the constraining effects of the controlling states of the generated mesh systems.

Treating the displacement of textual elements asymmetrically and within the framework of ( ) cyclic returns to the Aøs and Oøs of the mechanism means not only redundancy, but also the treatment of text as a highly responsive system. Since the joints and links of the mechanism perform multiple functions, angular displacement in the A-component are controlling the textual movement patterns of the -variables. Fundamental to this process is the provision that growth is observable. The theoretical significance of the separate treatment of the ( ) and ( ) variables relates to the way in which the concentration of energy has impact on evolving syntheses. Thus, testing the anticipated validity of the AaO-axiom is made dependent on the accomplished space separation (B. Bierschenk, 2011).

References

Baeyer, H. C., von (1999). Nota bene. From classical chemistry to super-strings, effective notation can shape the very development of a discipline. *The Sciences*, *39*, 12-14.

Baumann, L (2010). *Matter to mind to consciousness*. Copyrighted material: Printed in the USA. [Amazon.com]

Bierschenk, B. (1984). Steering mechanisms for knowability. *Cognitive Science Research*, 1. Lund: Lund University.

Bierschenk, B. (1991). The metaphor as instrument for naming the terminal states of ecological invariants. *Cognitive Science Research*, 37. Lund: Lund University.

Bierschenk, B. (1995). A demonstrative definition of consciousness in mono-zygotic twin. *Cognitive Science Research*, 55. Lund: Lund University.

Bierschenk, B. (2005). Controlling limits for knowability. *Cognitive Science Research*, 97. Copenhagen University & Lund University.

Bierschenk, B. (2011). Functional text geometry: The essentials of Perspective Text Analysis. *Cognitive Science Research*, 101. Copenhagen University & Lund University.

Bierschenk, B. (Ed.). (2012a). Consciousness in Historical Time: Tacitus on the Suiones. *Cognitive Science Research*, 103. Copenhagen University & Lund University.

Bierschenk, B. (2012b). Produced Consciousness: Shapes of the Machiavellian Snake. *Cognitive Science Research*, 105. Copenhagen University & Lund University.

Bierschenk, B. (2012c). *The Zipper Mechanism.* [On line]. Available: http://sites.google.com/site/aaoaxiom/tutorial/

Bierschenk, B., & Bierschenk, I. (2002). The AaO as building block in the coupling of text kinematics with the resonating structure of a metaphor. *Cognitive Science Research,* 85. Copenhagen University & Lund University.

Bierschenk, B., & Bierschenk, I. (2003). Individual growth in competence. *Cognitive Science Research,* 87. Copenhagen University & Lund University.

Bierschenk, I. (1989). Language as carrier of consciousness. *Cognitive Science Research,* 30. Lund University.

Bierschenk, I. (1999). The essence of text. A dialogue on Perspective text analysis. *Cognitive Science Research*, 70. Copenhagen University & Lund University.

Bierschenk, I. (2011). Ett ekologiskt perspektiv på språk och textanalys. [An ecological perspective on language and text analysis]. *Cognitive Science Research,* 98. Copenhagen University & Lund University. (In Swedish)

Bierschenk, I., & Bierschenk, B. (2011). Perspective Text Analysis: Tutorial to Vertex. *Cognitive Science Research,* 100. Copenhagen University & Lund University.

Bierschenk, I., & Bierschenk, B. (2013). La Géométrie du Texte. Manuel sur le Système PTA/Vertex. *Cognitive Science Research*, 110. Copenhagen University & Lund University.

Brodsky, C. (1987). *The imposition of form. Studies in narrative representation and knowledge*. Princeton, NJ: Princeton University Press.

Connes, A. (1994). *Noncommutative geometry*. New York: Academic Press.

Davidson, R. J. (2002). Synaptic substructures of the implicit and explicit self. *Science, 296*(5566), 268.

Duan, L.-M., Cirac, J. I., & Zoller, P. (2001). Geometric manipulation of trapped ions for quantum computation. Science, 292(5522), 1695-1697.

Durant, W., & Durant, A. (1965). *Kulturgeschichte der Menschheit: Das Zeitalter Voltaires (The story of civilization: The Age of Voltaire), Vol. 28* (3), pp. 369-431. Editions: Rencontre Lausanne and R. Veihl Genf.

Eccles, J. C. (1980). *The human psyche. The Gifford Lectures, University of Edinburgh 1978-1979*. New York: Springer Verlag.

Edelman, G. M., & Changeux, J.-P. (Eds.) (2001). *The brain*. New Brunswick, NJ: Transaction Publishers

Fiedler, K. (2003). Über Tests, physiologische Methoden und den Schein der Präzision [On tests, physiological methods and the illusion of precision]. *Psychologische Rundschau, 54*, 112-115.

Foster, R. G., & Kreitzman, L. (2004). *Rhythms of life: The biological clocks that control the daily lives of every living thing*. London: Profile.

Greene, B. (1999). *The elegant universe. Superstrings, hidden dimensions, and the quest for the ultimate theory*. New York: W. W. Norton & Company.

Head, H. (1920). *Studies in neurology*. London: Oxford University Press.

Hebb, D. O. (1980). *Essay on mind*. Hillsdale, NJ: Erlbaum.

Hestenes, D. (1986/1993). *New foundations for classical mechanics*. Dordrecht: Kluwer Academic Publishers.

Hestenes, D. (1994). Invariant body kinematics: II. Reaching and neurogeometry. Neural Networks, 7, 79-88.

Hurtley, S., & Szuromi, P. (2004). This week in Science: A superfluid solid, *Science, 305*, 1869.

Jaynes, J. (1976/1982). *Origin of consciousness in the breakdown of the bicameral mind*. Boston, MA: Houghton Mifflin.

Kelso, J. A. S. (1995). *Dynamic patterns: The self-organisation of brain and behaviour*. Cambridge, MA: The MIT Press.

LeDoux, J. (2002). *Synaptic self. How our brain become who we are*. New York: Viking.

Lloyd, S. (2001). Computation from geometry. Science, 292(5522), 1669.

Mason, Haydn. (1992). The context, the importance of Candide, critical reception, history, and philosophy and meaning.ö In Candide: *Optimism demolished*, pp. 3-17; 21-57. New York: Twayne,

Melzack, R., Bromage, P. R. (1973). Experimental phantom limbs. *Experimental Neurology, 39*, 261-269.

Miklos, G. L. G. (2001). The evolution and modification of brains and sensory systemes. In: Edelmann, G. M., & Changeux, J.-P. (Eds.). *The brain* (pp. 197-216). New Brunswick, NJ: Transaction Publishers.

Nunn, C. (2010). ̶Landscapesøof mentality, consciousness and time. *Journal of Consciousness Exploration & Research, 1*(5), 516-528.

Pribram, K. H. (1971). *Languages of the brain*. Englewood Cliffs, NJ: Prentice-Hall.

Pribram, K. H. (2004). Consciousness reassessed. *Mind and Matter, 2* (1), 7-35.

Raff, R. A. (1996). *The shape of life. Genes, development, and the evolution of animal form*. Chicago: The University of Chicago Press.

Snodgrass, J. G. & Thompson, R. L. (Eds.). (1997). *The self across psychology. Self-recognition, self-awareness and the self-concept* (Vol. 818, pp. 19-33). New York: The New York Academy of Sciences.

Sperry, R. W. (1968). Hemisphere deconnection and unity in conscious awareness. *American Psychologist, 23(10)*, 723-733.

Voltaire, F. de, (1755/1901). *The works of Voltaire: A contemporary version, Vol. X* (2)*, The Lisbon Earthquake and other poems*. (W. F. Fleming, Tranl.). New York: E. R. DuMont, (Original work published 1755) [The Online Library of Liberty]

Wales, D. J. (2003). *Energy landscapes: Applications to clusters, biomolecules and glasses*. Cambridge: Cambridge University Press.

Wheeler, J. A. (1998). *Geons, black holes & quantum foam: A life in physics*. New York: Norton.

Winfree, A. T. (1980). *The geometry of biological time*. Berlin: Springer Verlag.

Zimmer, C. (2004). *Soul made flesh. The discovery of the brain ̶ and how it changed the world*. New York: Free Press.